The International Journal of Social Sciences World
TIJOSSW is Available Online at:
https://www.growingscholar.org/journal/index.php/TIJOSSW
Vol. 4 No. 2, December 2022, pages: 224~231
DOI: https://doi.org/10.5281/zenodo.7335113
ISSN **2690-5167**
Growingscholar Publisher

Collaborative Governance of The Integrated Waste Management

Ivan Dhimas [1], **Sri Hastjarjo**[2], **Yulius Slamet** [3]

Received: September 25, 2022; Accepted: November 06, 2022; Displayed Online: November 18, 2022; Published: December 30, 2022

Keywords

Collaborative Governance;

Waste Management;

Village;

Community Empowerment;

Abstract

Collaborative governance is one way to answer stakeholders' problems, namely the government. The establishment of the Complete Waste Management Site (TPS), as part of the Village Owned Enterprises of *Paulan* village, aims to solve the waste problem that exists in the community. This case study is a descriptive study with a qualitative approach using primary data collection methods through in-depth interviews and secondary data. The study found that the collaboration process started with coordination between related stakeholders. In addition, it is also influenced by factors supporting governance collaboration such as Face to face dialogue, trust building, commitment to the process, Shared understanding phase, and intermediate Outcomes Phase. The concept of the Penta Helix Collaboration is seen in this study, so the stakeholder collaboration approach is proven in waste management at Village Owned Enterprises TPS *Tuntas*.

1. Introduction

The waste problem in a civilized society is fundamental and needs attention. Matters concerning environmental problems in waste management are things that become a benchmark for the condition of civilization in that environment. An environment with good waste management conditions also reflects a good condition of community civilization (Pellow, 2004; Krishna et al., 2017).

Policies and ways of managing this waste will only work with good cooperation from environmental stakeholders. In mutually responding cooperation and good communication processes between the government and the community, various types of collaboration are involved, from the decision-making of policies from various structures to mutually transacted messages.

[1] *Sebelas Maret University, Surakarta, Indonesia. Email: ivandhimas@gmail.com*
[2] *Sebelas Maret University, Surakarta, Indonesia. Email: sri.hastjarjo@gmail.com*
[3] *Sebelas Maret University, Surakarta, Indonesia. Email: yuliusslamet48@gmail.com*

Karanganyar Regency is an area in Central Java located on the western slope of Mount Lawu and extends around Surakarta. As an area that is a satellite area of the city of Surakarta, which is one of the important cities in Central Java, Karanganyar has various sectors that are superior to their regional economy, ranging from tourism, industry, and creative economy, to culture. There are 17 sub-districts with 177 sub-districts spanning 77,378.64 hectares or 2.38% of the total area of Central Java Province; Karanganyar has a population of 900 thousand of people with various backgrounds and different conditions (Cf. Karnawati et al., 2017).

The heterogeneity of this community is related to the conditions in which problems regarding settlements can occur. Domestic problems such as land problems, residential areas, education, and public health to industrial and household waste are problems that arise from the diversity of society. The management of waste and residential environmental waste in Karanganyar Regency has finally become something that the Regency government has highlighted.

With regulations from the district government written through legislation, domestic waste management is carried out by the village government, and each village has its urgency regarding waste problems in their area. Even with programs created by the village government, waste processing can usually be conducted by making a waste bank, sorting waste, recycling it into handicrafts, and making chemical waste processing which can be used as electricity and fertilizer for agriculture.

As mentioned above, the regulations handed down from the regent were finally responded to differently by the structural officials under him. Not all orders from the regent run smoothly. From all of Karanganyar, only a few have succeeded in carrying out their regional policies to manage waste, one of which stands out is the waste management of *Paulan* Village.

As an area located in the western region of the Karanganyar district, *Paulan* village is a strategic village. It is closely related to the city of Surakarta, which is a large city in its vicinity. *Paulan* has an area of 97,6810 Ha and a population of 3,200 people with four hamlets. *Paulan* Village is part of Karanganyar Regency, the main crossing area between cities, with immediate access to public transportation that crosses it.

Various problems related to waste, especially domestic waste, appear one after another and hit the *Paulan* community (Ahmed & Ahmaruzzaman, 2016). They started with protests that emerged, closing landfills, demonstrations, and adorning the journey of forming a sound waste management system in *Paulan* Village.

Paulan Village built a centralized Waste Management Site for its village and made various integrated programs. Various programs made by *Paulan* Village, such as (1) the existence of a Garbage Bank and (2) the Segregation of Trash, are to make domestic waste treatment. It is converted into liquid fertilizer by fermentation using bacteria and fertilizer. In its development, waste management in *Paulan* Village reaped various achievements and collaboration with various parties, making it possible to become a professional prospect.

This process started by a headman and a decision maker in the village designed a waste management program carried out at home by making liquid fertilizer from recycled organic waste raw materials such as leaves, fruit peels, vegetables, paper, and used food bones. Through the process spread through social media, it turned out that there was a collaboration between the companies that entered and various extension workers who came one after another to assist in the implementation of waste management.

The peak of its glory was that starting in 2018-2019, a plastic company glanced at a program designed by the village government and finally entered and collaborated to develop its waste management. *PT Polytama Propindo* has finally started to contribute with assistance, which is a company's social responsibility in developing an area. In this case, it is assisting in making this waste processing site more significant and more mass.

Waste management at TPS Tuntas is also an inspiration for other regions. Thus, the *Paulan* village government is often invited and becomes a speaker or training instructor in the region or other agencies regarding waste management. Collaborative governance requires the involvement of stakeholders. Meanwhile, BUM Des TPS Tuntas *Paulan* Village has stakeholders whose interests overlap and attract each other. For this reason, the communication processes carried out by the BUM Des TPS Tuntas *Paulan* Village manager in obtaining support and involving stakeholders are exciting things to review. This study seeks to review the communication process for the manager of BUM Des TPS Tuntas Desa *Paulan* using a stakeholder communication perspective, with different results in the form of collaborative governance in realizing its business activities.

2. Materials and Methods

Collaborative Stakeholder Concept

Collaborative Stakeholder is a concept derived from collaborative governance, which is a method of managing programs that directly involve stakeholders outside of the government and the state, having an orientation in consensus and deliberation in a collective decision-making process with a purpose. In order to create and carry out existing public policies and any existing public programs (Hardi, 2020).

Collaborative Governance criteria, according to Ansell & Gash (2008), as cited by Maestro et al (2021), are: (1) forum initiated by public institutions, (2) private sector including forum participants, (3) participants are directly involved in decision making, (4) organized, (5) forum aimed at making decisions with consensus, (6) the focus of the collaboration is on public policy or public management (Ansell & Gash, 2008).

There are several collaboration concepts, including the collaboration of Triple Helix, Quadra Helix, and Penta Helix. The background to the existence of the penta helix concept was built from the two previous models, namely the triple helix and quadra helix. The triple helix, namely stakeholders, consists of three actors. Meanwhile, the quadra helix consists of four actors.

Table 1
Table 1. Stakeholders of Triple Helix, Quadra Helix, and Penta Helix.
(Hardi, 2020)

Penta Helix	Quadra Helix	Triple Helix
Government	Government	Government
Business	Business	Business
Academia	Academia	Academia
NGO/ Civil Society	NGO/ Civil Society	
Mass Media		

Ansell & Gash (2008) describes the collaboration process into five indicators, which are as follows:

a) Face-to-face collaborative dialogue
b) Trust Building
c) Commitment to the Process
d) Shared Understanding phase,
e) Intermediate Outcomes Phase,

This study will review the collaborative stakeholder concept with the Penta Helix collaboration. It will be demonstrated through interpretation and emerging data from sources related to the construction of TPS Tuntas and its management process through the penta helix concept. In this research, these stakeholders will appear as data and sources, which include: The government on this side is the government of *Paulan* village and Karanganyar district, while the entrepreneur is PT Polimikro as the provider of CSR and assistance; non-government here are the community and the public of the village of *Paulan* and those who are involved in it, and the mass media here can be positioned in the news in the mass media, and social media documents used by sources to share information; while academics are the technical guidance and guidance institutions which always guide the *Paulan* Village TPS which in this case is sheltered by the Karangnyar *Dispermades* (Community and Village Empowerment Service).

This research wants a detailed description of the strategies and practices of organizational communication in stakeholder communication. To achieve this, this research uses qualitative methods. This study will use interview techniques for data collection. Interviews in this study were conducted with relevant stakeholders. The case study approach was chosen to study cases that specifically occurred.

A case study is a research methodology that helps to explore phenomena in a particular context through various data sources. It is carried out by exploring various points of view to reveal various layers of a phenomenon (Ellinger et al., 2005; Tetnowski, 2015). The investigations in this case study include, among others, (1) Overcoming technically different situations; (2) Relying on multiple sources of evidence; (3) Benefitting from the theoretical development of previous research (Yin, 2009).

This research took place from February 2022 to October 2022, with the primary data sources being the results of interviews and observations of activities in the Village Owned Enterprises of TPS *Tuntas, Paulan* Village activities. Data such as reports and articles from relevant stakeholders support this research.

3. Results and Discussions

Waste Management at TPS Completed in Paulan Village

Waste Management in *Paulan* village began with a regent's order in 2016 through Municipal Regulation Number 80 of 2016 concerning the Movement Towards Comprehensive Sanitation Access, which stated that:

> "Each village is expected to be able to process its waste thoroughly in 177 sub-districts in Karanganyar. This departs from the need to optimize Sukosari's main landfill, which is starting to get crowded and pile up. "

Therefore, the village is also expected to cooperate with the private sector and stakeholders in the community related to the program. As stated in the Karanganyar Regency Regional Regulation number 16 of 2010

,

> "The local government carries out waste processing on the principle of responsibility, sustainability, benefit, justice, awareness, togetherness, safety, security, and economic value."

All kinds of waste processing in the regions are a shared responsibility and aim for the common interest in implementing good and optimal environmental hygiene. The existence of these

various regulations for all relevant stakeholders, from the community to the local governments involved, is so focused on solving this waste problem.

With the issuance of the regional regulation and the district head's order, all villages in Karanganyar district finally flocked to solve their waste problem and tried various methods. The programs and methods developed by each village are adapted to the characteristics of each village and the people within it.

TPS Tuntas *Paulan* village was first located in North Sanggir, north of the Sanggir public cemetery. With management still needing an exemplary processing system, the TPS in *Paulan* village is in the form of an ordinary garbage dump where the waste is only taken from the residents' settlements. Then it is just piled up and burned.

Then in 2016-2018, there was a boarding school construction project right in front of the existing TPS, and finally, when the Darul Qur'an Pondok was built, there were demonstrations and demands from the residents for the closing of the TPS. After the TPS was closed, the problem reappeared, garbage disposal in *Paulan* became erratic, and many people disposed of garbage illegally. Massive protests continued during this time to the Village government until finally, the Head of *Paulan* Village held a joint audience and sought a joint solution, which coincided with the issuance of MUNICIPAL REGULATION Number 80 of 2016. After consultation with the district and environmental services in Karanganyar Regency, Colomadu TPS has become integrated into Gedongan TPS for processing.

In addition to using Colomadu's integrated TPS in Gedongan, the *Paulan* community's domestic waste management uses the old paradigm: collect-transport-dispose. The community also burns their waste in their respective yards.

Some residents also use the services of vendors or third parties for processing their domestic waste. They pay 50,000-60,000 rupiah monthly to have their waste taken and processed at the vendor's integrated waste processing site. Some of the waste is disposed of in the TPS from this vendor using the TPS in the neighboring villages, namely Blulukan and Gawanan, to become the waste processing sites.

Better waste processing began in 2017/2018, along with regulations regarding waste that were handed down from the district head to the village head. Joko Margono, as the Head of *Paulan* Village, conducted research or trials independently to process his domestic waste at home. By collecting various references, he knows the Head of *Paulan* Village also conducted comparative studies in villages around Karanganyar. Various comparative studies and sharing with parties to process waste, from consultations with the regent to seeing other media reports or social media.

Joko Margono carried out the first experimental waste processing by processing his household waste by sorting organic and non-organic waste and those that still have further benefits. The Lurah processed his domestic waste into fertilizer with magot, and it was implemented next at the *Paulan* Village head's office for a few months. Apart from that, gardens were also made above the house and in the office as a pilot project for this waste management, which was finally successful and will be carried out more massively for the community. Apart from that, the Village Government has built catfish ponds and office gardens as a water facility and a model interest in waste management. After this trial, along with the transfer of new land for the *Paulan* Village TPS and a pilot project from the district to process waste in 3 villages, namely Tohudan, *Paulan*, and Gedongan, the programs that were formulated earlier, have finally begun to be implemented in stages.

The new TPS for *Paulan* Village was finally established in a new location on land far from settlements. Various pilot projects by the *Paulan* Village Government were finally implemented, from making maggot fertilizer to creating a waste bank for the community.

This waste management program is also often socialized by the Village Head through Facebook social media. Various Facebook posts regarding *Paulan*'s waste management in 2018

were finally glimpsed by an old friend of Joko Margono, who is also concerned with waste management. Fajar, Director of PT Polytama Propindo, and administrator of INAPLAS (The Indonesia Olefin, Aromatic & Plastic Industry Association), an association of plastic companies throughout Indonesia, offer assistance and a more modern waste processing system that is tailored to the needs of the environment.

This incoming CSR eventually made the *Paulan* Village TPS grow, and the Complete Garbage Program for *Paulan* Village was realized. Assistance in building a better TPS location and infrastructure in the form of a smoke filter for burning waste into steam and turning it into fertilizer so that it does not cause PT Polytama Propindo to provide odors. The waste processing equipment based on turning smoke into liquid is finally being used by the people of *Paulan* Village at their TPS.

Various TPS infrastructures are developing rapidly, starting from the construction of roads around TPS Completed access, the construction of increasingly clean and integrated TPS, and the construction of roads at the *Paulan* Village Office.

This was followed up by the head of *Paulan* village, which was included in his work program and eventually developed TPS Completed into a Village Owned Enterprises managed by *Paulan* Village. Almost all of the waste management in *Paulan*, from residents' settlements to public facilities, has been managed thoroughly.

For waste management in *Paulan*, it can be said that this village has started to implement a zero waste environment daily because it has managed 1.5 tons of waste per 2 days. Likewise, the process of reuse and recycling of other plastic waste has been carried out for the waste bank from 2018-2022.

TPS Completed in *Paulan* Village has become a model and a place of reference for various regions throughout Java districts to study practical and efficient waste management. TPS Tuntas now often receives visits for comparative studies from various stakeholders, starting from the village government to companies that wish to study waste management. The effectiveness of machines and other infrastructure in waste processing has become a model and is also often covered by the mass media, to the point where it becomes a speaker and sharing session with agencies from other provinces and districts.

Dynamics of Collaborative Governance

Based on the Collaborative Governance criteria according to the waste processing that occurred in *Paulan* Village, it is revealed several points as follows.

a) The forum was initiated by a public institution, namely by the district government through the regent, and the regulations previously mentioned, *Paulan*'s TPS Completed Village existed and was followed up by the head of *Paulan* Village who conducted an exploration of waste management and eventually became a pilot project. This waste management program continued through the establishment of the TPS Tuntas *Paulan* Village Village Owned Enterprises, which relates to using the Annual APBDes to the policies that must be taken. These Village Owned Enterprises are less popular among the usual regions they make regarding tourism, agriculture, and the economy.

b) The private sector, including forum participants, PT Polytama Propindo, as a provider of assistance for developing TPS infrastructure, is improving. Apart from that Pondok Darul Qur'an, as a private sector that became the new community of *Paulan* Village, also seems to have contributed to the establishment of TPS Completed *Paulan* Village, where there was conflict. As critical theory discusses constructivism, conflict is one of the triggers for the existence of the construction of something new (Denzin & Lincoln, 1994).

c) Participants are directly involved in decision-making; the participants here give each other their voices and can provide input from waste management. This input can be seen from the development of existing regulations and the private sector's share in the management of this TPS. All the actors involved finally agreed upon suggestions, orders, and input from various parties.

d) Organized, the Village Owned Enterprises TPS Complete *Paulan* Village has its own management formed by the village government. The obligations of Village Owned Enterprises management aside from carrying out the operational and administrative management of Village Owned Enterprises, they are also responsible for reporting to the relevant Village, Private, DLH, and District Governments for their work. The Village Owned Enterprises work and management system is carried out and organized by themselves, from collecting waste for the community to managing the waste downstream.

e) The forum aims to make decisions by consensus. The various stakeholders involved in waste management in *Paulan* Village jointly contributed to the decision to create a mutually agreed-upon consensus, starting from the conflict over the transfer of TPS until finally, there was TPS Complete, and became Village Owned Enterprises.

f) The focus of the collaboration is on public policy or public management. Due to the developments and regulations mentioned above, to the village head's vision and mission through the RPJM, all the policies taken will eventually return to the public interest. From this, we can see the social changes that have occurred in *Paulan* Village, because there has been a policy that binds them to be implemented mainly in terms of waste management.

Apart from that, various indicators of the occurrence of collaborative governance are also visible and can be seen from the waste management that occurred in *Paulan* Village. Starting from the face-to-face dialogue process, this can be seen in the village government's dialogue with residents, regents, and the private sector participating in supporting this program. This process always occurs from the start of the establishment until the management takes place, which is carried out through joint meetings, visits, personal dialogues, et cetera.

With this process, a trust-building process occurs, where the results of this trust can be seen from the entry of the private sector, which is ready to assist, the design of the annual APBDes used for Village Owned Enterprises infrastructure, to the existence of public trust in this program so that they can cooperate. This commitment is a shared responsibility so that, in the end they can develop from 2018- until now. This Village Owned Enterprises finally shows the results to the community again with the benefits of a clean and good environment.

4. Conclusion

Based on the research conducted, it can be seen that stakeholder collaboration occurred at the establishment of TPS Complete, there were various kinds of upheavals that occurred in a collaborative process that occurred. Even so, these things are found in the village government process involved in making a policy.

This study also found that, following the Penta helix concept in collaborative Stakeholders, there is a changing environment through establishing a policy. TPS Completed resulted in ecological changes for the entire community and the institutions involved in it. Through the collaboration process, there is a communication process that eventually becomes a shared understanding. Stakeholders and governance, in particular, have conducted various non-instant developments since 2018-2022 to realize this program.

Therefore, the collaborative governance process will continue to be capable and effective in implementing public policy making. In addition, the nature of the long and step-by-step process of collaborative governance is a suitable character in rural development. The countryside as a heterogeneous area and mainly *Paulan* village where the community has urban characteristics needs to carry out a long process in making a new policy so that the policy can be optimal and effective for the environment.

Acknowledgments

The authors would like to thank all parties who have assisted this research and all communities involved in the data. The authors also thank the reviewers of the journal Growingscholar for their attention to the receipt of this publication.

References

Ahmed, M. J. K., & Ahmaruzzaman, M. (2016). A review on potential usage of industrial waste materials for binding heavy metal ions from aqueous solutions. *Journal of Water Process Engineering*, *10*, 39-47.

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of public administration research and theory*, *18*(4), 543-571.

Denzin, N. K., & Lincoln, Y. S. (1994). Handbook of Qualitative Research, Sage Publications. *Oaks, London, New Delhi*.

Ellinger, A. D., Watkins, K. E., & Marsick, V. J. (2005). Case study research methods. *Research in organizations: Foundations and methods of inquiry*, 327-350.

Hardi, W. (2020). Governance dalam Perspektif Administrasi Publik.

Karnawati, D., Fathani, T. F., Ignatius, S., Andayani, B., Legono, D., & Burton, P. W. (2011). Landslide hazard and community-based risk reduction effort in Karanganyar and the surrounding area, central Java, Indonesia. *Journal of Mountain Science*, *8*(2), 149-153.

Krishna, I. M., Manickam, V., Shah, A., & Davergave, N. (2017). *Environmental management: science and engineering for industry*. Butterworth-Heinemann.

Maestro, E., Ilham, M., Gistituati, N., & Jufri, W. N. (2021). Public Image in the Management of Education Institutions. *The International Journal of Social Sciences World (TIJOSSW)*, *3*(01), 200-209.

Pellow, D. N. (2004). *Garbage wars: The struggle for environmental justice in Chicago*. Mit Press.

Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International journal of qualitative methods*, *18*, 1609406919862424. https://doi.org/10.1177/1609406919862424

Tetnowski, J. (2015). Qualitative case study research design. *Perspectives on Fluency and Fluency Disorders*, *25*(1), 39-45.

Yin, R. K. (2009). *Case study research: Design and methods* (Vol. 5). sage.